About the MRSEC

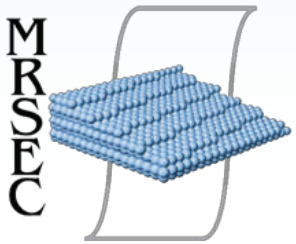
The University of Maryland Materials Research Science and Engineering Center (MRSEC) is part of a network of national Materials Research centers funded by the National Science Foundation (NSF). The MRSEC's activities focus on three general areas:

- *Materials Research*
- *Research Collaborations*
- *Education Outreach*

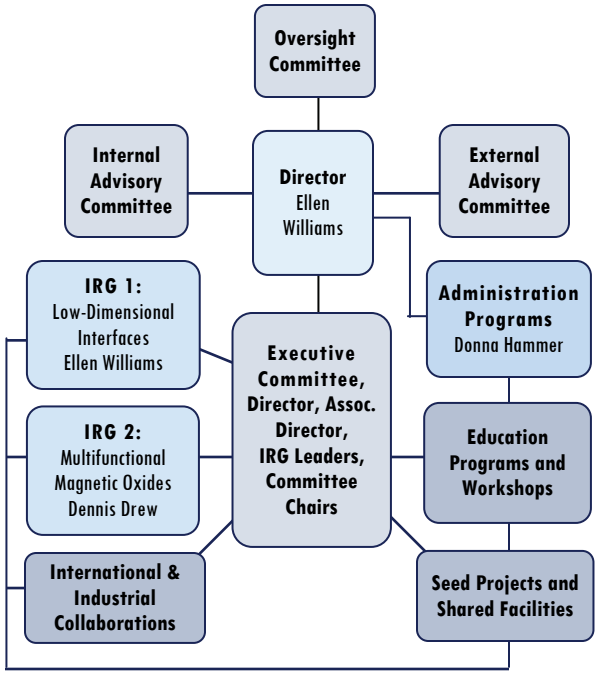
For details on the NSF MRSEC program, visit http://www.mrsec.org

*The UMD MRSEC was established under the directorship of Professor **Ellen Williams** with an NSF award in September 1996. After a successful four-year run, NSF renewed the MRSEC in September 2000. In September 2005, the MRSEC proudly announced a third award from NSF to continue its cutting-edge research and innovative outreach activities.*

For more information on the University of Maryland MRSEC, visit http://mrsec.umd.edu



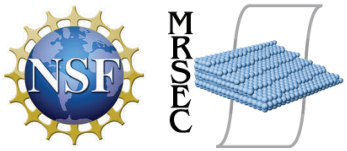
MRSEC Structure



University of Maryland MRSEC

2120 John S. Toll Physics Bldg.
University of Maryland
College Park, MD 20742

Email: mrsec@umd.edu
Phone: 301.405.8349
Fax: 301.405.7993
Web: http://mrsec.umd.edu/



University of Maryland

Materials Research Science and Engineering Center

National Science Foundation

UMD MRSEC is where Science and Engineering Make a Difference

http://mrsec.umd.edu

Impact

The MRSEC builds bridges between professionally-trained scientists and professionally-trained educators to improve inquiry-based science teaching.

The MRSEC has developed programs that support curricular needs of public schools while providing professional development for researchers and teachers. In addition, MRSEC works hard to encourage participation of members of underrepresented groups in STEM disciplines.

Dedicated to Excellence in Science and Engineering Education

The MRSEC REU program provides undergraduate students with a ten-week opportunity to work with faculty on exciting interdisciplinary research projects. Students gain new knowledge and skills while participating in seminars, social activities, and fieldtrips to government and industrial labs. Students receive a stipend of $4,500.00 and live in furnished on-campus housing.

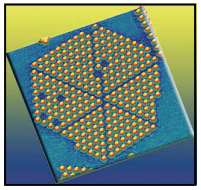
REU

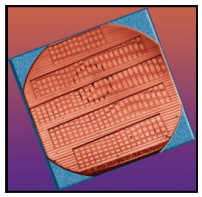
Join the Maryland MRSEC for a life-changing summer research experience!

http://mrsec.umd.edu/REU/

Research

Patterns of buckeyballs





Combinatorial materials discovery

The Maryland MRSEC carries out nationally recognized fundamental research on surfaces and interfaces of materials with potential impact on the next generation of opto- and nano-electronic devices, and on complex oxides with potential applications in memory, switches, and sensors.

Two specific research thrusts are supported as interdisciplinary research groups (IRGs):

- **IRG 1 Low-Dimensional Interfaces**
- **IRG 2 Multifunctional Magnetic Oxides**

In addition, the MRSEC supports Seed programs, in which young faculty develop new and exciting research directions:

- **Magnetic Imaging: In-situ Devices and Novel Imaging Methods**
- **Materials Research for Template-Directed Nanostructure Assembly**
- **Mean-field Theory for Elastic Effects on Crystal Surfaces**

Partnerships

The UMD MRSEC is an interdisciplinary program, linked to many of UMD's other centers of excellence. In addition, the MRSEC has a strong program of scientific collaborations with international partners, federal laboratories, industry, and other educational institutions.

Shared Experimental Facilities

MRSEC operates five major SEFs, which not only serve as a foundation for MRSEC's technical research programs, but also make cutting-edge facilities available to the broader campus research community.

- Xray/UV Photoelectron Spectrometer
- UHV Scanning Probe Microscopes
- Nanoelectronics Facility
- Electron Microscopy Facility
- Keck Combinatorial Laboratory